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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,744	12/17/2003	Alessandro Balducci	246753US0X	5619

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EXAMINER

TESKIN, FRED M

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/736,744

Applicant(s)

BALDUCCI ET AL.

Examiner

Fred M. Teskin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>121703</u> . | 6) <input type="checkbox"/> Other: ____ |

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Claims 1-9 are currently pending and under examination herein.

The references cited in the Search Report of 03 July 2003 have been considered. However, notwithstanding its "X" designation, WO '928 is not being applied in any rejection herein since (1) its only teaching relative to using a four-component catalytic system of rare-earth element compound, halogen-containing organo aluminum derivative, alumoxane and organoaluminum compound to polymerize a conjugated diene is limited to conducting the polymerization at temperatures outside the scope of operating conditions used in the claimed process; and (2) it nowhere teaches or suggests that the obtained polydiene will possess the branching index and alpha parameter values requisite to the claimed invention.

Claim 1 is objected to because of the following informalities: the two occurrences of "Carbon" should not be capitalized. Appropriate correction is required.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over EP 0 863 165 A1 ("Sone").

Sone describes a process for the preparation of polybutadiene, the process including the step of polymerizing 1,3-butadiene in the presence of catalytic components corresponding to applicants' components (a), (b), (c), and (d) as claimed; i.e., neodymium octanoate, diethylaluminum chloride, methylaluminoxane and isobutylaluminum hydride. See page 23, Comparative Example 4. Significantly, the polymerization is conducted "at 80°C for 1 hour" (Id., line 9). A polymerization temperature of 80°C falls well within the isothermal temperature range recited in claim 1 and matches the lower endpoint of the range recited in claim 2. Moreover, the 1 hour polymerization time falls squarely within applicants' *preferred* reaction time range, as indicated herein (specification p. 13, ll. 4-5). Further, the recovered polymer is characterized, *inter alia*, by a vinyl-1,2-content lower than 2 %, viz., 1.4 %, per claim 4.

As such, Sone is seen to describe all the positive process limitations of claim 1 in an embodiment in which the polymerization period corresponds to a reaction time for obtaining polydiene having the claimed values of branching index and alpha parameter.

Accordingly, there is a plausible basis for inferring that the polybutadiene obtained per the cited example of Sone will intrinsically possess the requisite values of branching index and alpha parameter. In other words, the subject matter of claim 1

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appears to be inherently described by Sone. It follows that there is sufficient evidence in the record to justify shifting the burden to applicants to demonstrate that the described process does not inherently anticipate the subject matter of claim 1. *Cf. In re Spada*, 15 USPQ2d 1655 (Fed. Cir. 1990) and *In re Best*, 195 USPQ 430 (CCPA 1977).

As to dependent claims 7-9, the catalyst used in Comparative Example 4 of Sone is prepared by combining the individual components at mmol concentrations that equate to molar ratios of (a)/(b), (a)/(c) and (c)/(d) within the ranges recited in claims 7 and 8. Further, the reported concentration of Nd octanoate, 0.09 mmol, falls within the range recited in claim 9 for the corresponding component (a) of the claimed catalytic system.

Based on the foregoing, Sone is deemed to provide an adequate basis for finding claims 1-9 *prima facie* unpatentable.

The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Ishino et al is pertinent to producing conjugated diene polymer using a catalyst consisting essentially of a lanthanoid compound, an aluminoxane and a halogenated organometal compound (note col. 2, lines 41+).

No claims are allowed.

Any inquiry concerning this communication should be directed to Examiner F. M. Teskin whose telephone number is (571) 272-1116. The examiner can normally be


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reached on Monday through Thursday from 7:00 AM - 4:30 PM, and can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The appropriate fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FMTeskin/09-28-05


FRED TESKIN
PRIMARY EXAMINER
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